

## TWO NEW SPECIES OF *CALYPTRANTHES* (MYRTACEAE) FROM ECUADOR

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### ABSTRACT

*Calyptranthes glandulosa* and *Calyptranthes ishoaquinicca*, two new species from Ecuador, are described and illustrated.

### RESUMEN

Se describen y se ilustran dos especies nuevas de Myrtaceae del Ecuador, *Calyptranthes glandulosa* y *Calyptranthes ishoaquinicca*.

### INTRODUCTION

*Calyptranthes* is a genus of more than 100 species ranging from Mexico to northern Argentina (Landrum & Kawasaki 1997). It is characterized by the usually paired panicles, the closed calyx opening as a calyptra, and, in many species, dichotomous branching. About 30 species are found in Ecuador, many of them new to science (Holst 1999). Two of these, *Calyptranthes glandulosa* and *Calyptranthes ishoaquinicca*, are described and illustrated in this paper.

***Calyptranthes glandulosa*** M.L. Kawasaki & B. Holst, sp. nov. (**Fig. 1**). TYPE: ECUADOR, ORELLANA ("NAPO" on label): Reserva Biológica Jatun Sacha, Río Napo, 8 km al E de Misahualli, 01°04'S, 77°36'W, 450 m, 21–25 May 1987 (H), C. Cerón 1431 (HOLOTYPE: QCNE; ISOTYPES: F, MO, NY, SEL).

Arbuscula. Folia elliptico-oblonga, siccata supra olivacea, subtus brunnea, utrinque grosse pellucidopunctata, nervo medio supra sulcato. Panicula pauciflora; alabastra ochraceo-pilosa. Bacca globosa, glabra.

**Small shrubs or trees** 2–6 m tall, the trichomes where present yellowish, bifurcate. **Leaf blades** elliptic to oblong or less commonly obovate, 16.6–28(–34) × 5.1–10.5(–20) cm, coriaceous, with conspicuous, dark, convex glands on both surfaces, discolorous when dry, the upper surface olive-green, glabrous, the lower surface brownish-green to light-brown, nearly glabrous, with a few scattered trichomes; apex abruptly acuminate, the acumen 1–2 cm long; base obtuse to cuneate; midvein sulcate above, convex below; lateral veins 20–25 pairs, convex on both surfaces; marginal veins 2, the innermost 3–5 mm from blade margin; petiole 1.1–2 cm long, canaliculate, glabrous, drying blackish. **Inflorescences** paired reduced panicles with ca. 5–20 flowers per panicle, 1.5–5.5 cm long, the

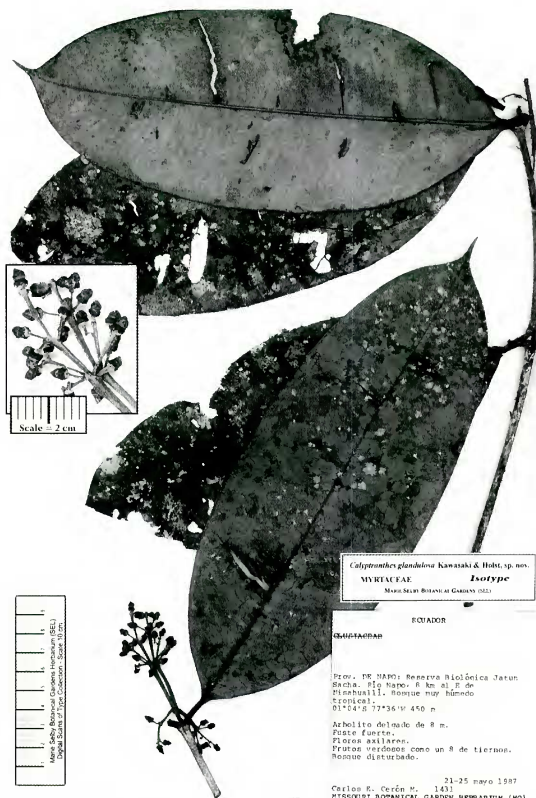


FIG. 1. *Calyptranthes glandulosa* M.L. Kawasaki & B. Holst (Cerón 1431: isotype, SEL).

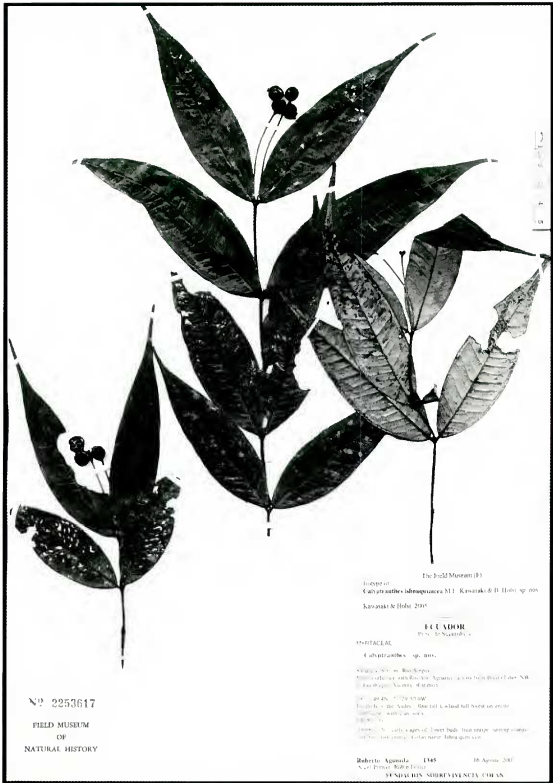
axes pubescent; flower buds ovoid, somewhat constricted in the middle, ca. 4 mm long, distinctly gland-dotted, sessile; bracteoles deciduous, not seen; calyx calyptrate, glabrescent, deciduous; petals absent; stamens ca. 90, the filaments ca. 6 mm long, the anthers ca. 0.5 mm long; style ca. 6 mm long; hypanthium prolonged 1–2 mm beyond the ovary, tomentose without; ovary 2-locular, with 2 ovules per locule. **Fruits** globose, ca. 1.5–2 cm diam., crowned by a circular hypanthium scar, gland-dotted, glabrous; seeds 1–2, ca.  $9 \times 7$  mm, the seed coat membranous; embryo myrcioid, the cotyledons leafy and folded, the radicle well developed, equalling cotyledons in length.

*Distribution*.—Known only from Amazonian Ecuador, in lowland humid forests, at 200–450 m elevation.

Among the large-leaved species of *Calyptranthes* in Ecuador, *Calyptranthes glandulosa* is readily recognized by the leaf-blades with conspicuous, dark glands on both surfaces. The flowers appear distorted in bud as though diseased. No specimens are known at anthesis, though pollination is evidently occurring as several specimens bear fruit. It is possible that this species has cleistogamous flowers or perhaps a pathogen is present that is interrupting the normal flowering and fruiting sequence.

Additional collections examined: **ECUADOR**. **Orellana**: Payamino, Reserva Florística "El Chuncho," bosque primario, Estación Experimental INIAP-Napo, 5 km al NW de Coca,  $00^{\circ}30'S$ ,  $77^{\circ}01'W$ , 250 m, 13 Dec 1987 (fl), C. Cerón & W. Palacios 3002 (MO, SEL). Yasuni Forest Reserve, 1–2 km E of Pontificia Universidad Católica del Ecuador Sci Station,  $00^{\circ}40.853'S$ ,  $76^{\circ}23.697'W$ , 225 m, 23 Jun 1995 (fr), P. Acevedo-Rodríguez & J.A. Cedeño 7502 (SEL); Orellana, Parque Nacional Yasuni, Carretera y oleoducto de Maxus en construcción Km. 32, al S del Río Tiputini,  $00^{\circ}37'S$ ,  $76^{\circ}29'W$ , 250 m, 8–10 Feb 1994 (fl), M. Aulestia 1720 (MO, SEL); Estación Científica Yasuni, Tiputini River, NW of confluence with Tivacuno River; 6 km E of Km 44 on main Maxus Road, on spur road to Tivacuno oilwell,  $00^{\circ}38'S$ ,  $76^{\circ}30'W$ , 200–300 m, 23 Oct 1996 (st), R. Foster, K. Romoleroux, M. Bass & G. Villa 15700 (F, QCA); Estación Científica Yasuni, Río Tiputini, al NO de la confluencia con el Río Tivacuno, E de la carretera Maxus, Km 44, desvío hacia el pozo Tivacuno, parcela de 50 ha,  $00^{\circ}38'S$ ,  $76^{\circ}30'W$ , 200–300 m, 12 Jun 1995 (fr), K. Romoleroux & R. Foster 1697 (F, QCA); Estación Científica Yasuni, Río Tiputini, al NO de la confluencia con el Río Tivacuno, 6 km E de la carretera Maxus, Km 44, desvío hacia el pozo Tivacuno, parcela de 50 ha,  $00^{\circ}38'S$ ,  $76^{\circ}30'W$ , 200–300 m, 21 Nov 1995 (fl), K. Romoleroux & R. Foster 2031 (F, QCA); Estación Científica Yasuni, Río Tiputini, al NO de la confluencia con el Río Tivacuno, 6 km E de la carretera Maxus, Km 44, desvío hacia el pozo Tivacuno, parcela de 50 ha, árbol #102694,  $00^{\circ}59'S$ ,  $77^{\circ}45'W$ , 200–300 m, 30 Oct 1997 (fl), K. Romoleroux, G. Villa & P. Asimbaya 3191 (F, QCA). Estación Científica Yasuni, Río Tiputini, al NO de la confluencia con el Río Tivacuno, E de la carretera Repsol-YPF, Km 7 desvío hacia el pozo Tivacuno, Laguna Herradura,  $00^{\circ}38'S$ ,  $76^{\circ}09'W$ , 200–300 m, 15 Oct 1999 (fl), G. Villa & C. Flores 192 (F, QCA). **Pastaza**: Pastaza Canton, Pozo petrolero "Ramirez," 20 km al S de la población de Curaray,  $01^{\circ}32'S$ ,  $76^{\circ}51'W$ , 300 m, 21–28 Feb 1990 (fl, fr), V. Zak & S. Espinoza 4906 (MO, SEL).

***Calyptranthes ishoaquinica*** M.L. Kawasaki & B. Holst, sp. nov. (**Fig. 2**). TYPE: EC-ADUARD. SUCUMBIOS: Fundación Sobrevivencia Cofán, Sinangoe Station, Río Sieguayo, near confluence with Río Alto Aguarico, across from Puerto Libre, NW of Lumbaqui, foothills of the Andes, 40m tall lowland hill-forest on gentle ridgeslopes with clay soils,  $00^{\circ}10'45''N$ ,



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**FLUOROR**  
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**MYRTACEAE**  
*Calyptanthes* sp. nov.  
 Fl. S. S. Negandhi  
 Myrtaceae  
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FIG. 2. *Calyptanthes ishoquinicca* M.L. Kawasaki & B. Holst (*Aguinda et al. 1345: isotype, F*).

77°29'50"W, 600–800m, 16 Aug 2001 (buds, fr), R. Aguinda, N. Pitman & R. Foster 1345 (HOLOTYPE: QCNE; ISOTYPES: F, SEL).

Frutex. Folia lanceolata, supra olivacea, subtus flavo-vel pallide-viridia; nervo medio supra sulcato; apice longiuscule acuminata. Inflorescentia 3-flora; alabastra ochraceo-pilosa, apiculata. Bacca globosa, glabra.

**Shrubs** 1–2 m tall, the trichomes where present yellowish-brown, bifurcate; young stems narrowly 4-winged to 4-angled, quadrangular in cross section. **Leaf blades** lanceolate, 8–14.3 × 1.8–3.6 cm, chartaceous, discolorous when dry, the upper surface olive-green, glabrous, the lower surface yellowish- to brownish-green, nearly glabrous, with a few scattered trichomes especially on the midvein; apex narrowly acuminate to caudate-acuminate with a slender acumen to 3.5 cm long; base obtuse to cuneate; midvein sulcate above, convex below; lateral veins ca. 14–17 pairs, impressed to strongly impressed above, raised below; marginal veins 2, the innermost 1–3 mm from blade margin; glandular dots indistinct on the upper surface, numerous and convex on the lower surface; petiole 1–2 mm long, canaliculate, puberulous, drying blackish. **Inflorescences** paired, (1–)3(–4)-flowered spikes, 2–6 cm long, the axes glabrous, nodding; bracts lanceolate, ca. 5 × 1 mm, puberulous, deciduous; flower buds obovoid, 2–3 mm long, pubescent, apiculate, sessile; bracteoles deciduous, not seen; calyx calyptrate, glabrescent, deciduous in mature fruit; petals absent; stamens ca. 50, the filaments ca. 6 mm long, the anthers ca. 0.5 mm long; style ca. 10 mm long; hypanthium prolonged ca. 1 mm beyond the ovary, tomentose to strigose without; ovary 2-locular, with 2 ovules per locule. **Fruits** globose, 7–9 mm diam., crowned by circular hypanthium scar, orange-red to dark-purple, glabrous; seeds 1–2, ca. 6 × 5 mm, the seed coat membranous; embryo myrcioid, the cotyledons leafy and folded, the radicle well developed, equaling cotyledons in length.

**Distribution.**—Known only from Ecuador (Sucumbíos and Pastaza), in lowland to montane forests, at 430–800 m elevation.

*Calyptranthes ishoaquinicca*, well known as “ishoa quinicca” in the Cofán villages (Pitman et al. 2002), has traditionally been used in a Cofán coming-of-age ceremony for young men (12–15 years old), as a purgative to impart strength for their adult lives; they drink a concoction prepared from this plant for ca. 10 days, accompanied by much vomiting. It is distinguished from all other species of the genus in Ecuador by having short, 3-flowered inflorescences and chartaceous, narrowly acuminate leaves, with impressed lateral veins.

Additional collections examined: **ECUADOR. Pastaza:** Villano, Pandanuque, encima de colina al S del pozo petrolero Villano 2 de ARCO, 01°28'S, 77°27'W, 550 m, 30 Ago 1987 (fr), A. Alvarez, H. Vargas & E. Freire 2410 (F, MO, QCNE, SEL); Cantón Arajuno, Parroquia Villano, línea propuesta por ARCO para el oleoducto, Campamentos 4 a 5, Km 10 de Villano, 430 m, 01°28'S, 77°31'W, 3–7 Jul 1998 (fl), E. Freire & M. Innunda 3182 (MO, SEL). **Sucumbíos:** Alto Río Aguarico, Río Sieguyo, upriver from Sinangue along Northern border of Reserva Cayambe-Coca, small tributary across Aguarico SE of Puerto Libre, steep forested ridgeslopes, 00°10'82"N, 77°29'83"W, 580–700m, 13 Jul 2000 (fr), R. Aguinda, R. Foster, M. Metz & T. Theim 955 (F, QCNE).

## ACKNOWLEDGMENTS

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